

REMARKS/ARGUMENTS

Claims 1-9 remain in this application. Claims 1, 3, 4, 5, 6, and 9 have been amended. New claims 25 and 26 have been added.

The Examiner indicated that restriction to one of the following inventions is required under 35 U.S.C. § 121:

- I. Claims 1-9, drawn to a, classified in class 422, subclass 102.
- II. Claims 10-16, drawn to a method for performing an assay, classified in class 436, subclass 183.
- III. Claims 17-24, drawn to a method for treating a reactive surface of a substrate, classified in class 436, subclass 2.

The Claims of Group I, Claims 1-9, drawn to a device comprising a frame having a base having a number of recesses are elected for prosecution. Applicants' Claims 10-24 have been withdrawn as a result of the restriction requirement. Applicants reserve the right to file a continuing or divisional application(s) or take such other appropriate action as deemed necessary to protect the non-elected inventions. Applicants do not hereby abandon or waive any rights in the non-elected inventions.

Applicants' Claims 3, 4, 6 and 9 stand rejected by the Examiner under 35 U.S.C. § 112, second paragraph, as being definite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With regard to Claims 3 and 6, Applicants removed the limitation "said slide-holder" in both claims respectively and replaced it with the term "frame" which has sufficient antecedent basis in the claims. With regard to Claim 4, though Applicants feel there is sufficient description for the recitation of a "virtual microplate" in the specification, for additional clarity, Applicants have amended Claim 4 to change "virtual microplate with an industry standard footprint" to --an area equivalent to the footprint of an industry standard microplate--, as clearly recited in Applicants' specification on page 4, paragraph [0009], lines 8-9.

With regard to Applicants' Claim 9, Applicants agree with the Examiner that "32 x 48 matrix" is the standard arrangement for a microplate having 1536 wells and hence, Applicants have amended Claim 9 to so indicate.

Accordingly, Applicants contend that Claims 3, 4, 6, and 9 are now proper and definite under 35 U.S.C. § 112, second paragraph, particularly pointing out and distinctly claiming the subject matter which Applicants regard as their invention.

The Examiner rejected Applicants' Claims 1-3, 5 and 6 under 35 U.S.C. § 102(b) as being anticipated by Jorgensen (US 2,633,980).

Jorgensen neither describes nor suggests ... a frame having a number of recesses in which a number of planar substrates can fit side by side; said frame ... characterized as a tool for interrogation of substrates in a *microplate format* ... as recited in Applicants' Claim 1 (emphasis added); nor does Jorgensen describe or suggest ... frame ... characterized as a tool for either: a) performing multiple, discrete assays on an individual substrate, b) determining relative quality of said substrates, c) screening of materials that have optical properties; and said frame is designed to work in conjunction with a plate-reader or a scanner adapted for microplates... as recited in Applicants' Claim 5.

Jorgensen discloses a microscope slide holder comprising a flat plate 10 of rigid material. The holder further comprises recesses 11 defined by sidewalls that are adapted to hold microscope slides. The holder can accommodate up to six (6) microscope slides with three (3) of the slides side by side (see Fig. 1 and 4). The reference further discloses that the slide holder and holding elements 13 that are adapted to secure the slides within the slide holder are transparent so that the slides can be examined without removing them from the holder (lines 33-37, col. 3).

However, Jorgensen does not describe or suggest ... "substrates in a microplate format" as recited in Applicants' base Claim 1. Nowhere does the Jorgensen reference disclose that the substrates are configured in the slide holder in a microplate format. Further, nowhere in Jorgensen is there a description or suggestion that the "frame is characterized as a tool for interrogation of ...substrates in a microplate format" as recited in Applicants' Claim 1 or "...said frame is designed to work in conjunction with a plate reader ..." as recited in Applicants' base Claim 5.

Jorgensen's slide holder is not characterized as a "tool for interrogation" but rather as a storage apparatus. Jorgensen's Fig. 1 depicts a slide holder capable of holding six slides. Assuming *arguendo* that four slides were placed side by side in the slide holder as depicted in Fig. 1 of Jorgensen, and even assuming *arguendo* that the slides were kept together for examination purposes, Applicants contend that the four slides are in an improper orientation for use with a microplate reader. As can be seen in Applicants' Figs. 1 and 2, the orientation of the planar substrates in the instant invention, while side by side, are in a different orientation than the four slides placed together in Jorgensen's slide holder of Fig. 1. Applicants "present apparatus could be employed to facilitate the interrogation of substrates by converting individual substrates into a plate format, so as to take advantage of array-scanners and plate-readers" (see

Applicants' spec, page 9, paragraph [0034]), while Jorgensen's slide holder could not be converted in such a way.

Applicants contend that the only examination possible with the Jorgensen slide holder is a visual type examination or comparison of the slides and not one for performing "multiple, discrete assays on an individual substrate...screening of materials that have optical properties...for conjunction with a plate reader or a scanner adapted for microplates" as recited in Applicants' Claim 5.

Moreover, Applicants argue that the fact that the Jorgensen holder accommodates six slides teaches away from the notion that Jorgensen slide holder was intended for use in a microplate format or with a plate reader or a scanner adapted for a microplates.

Therefore, Applicants maintain that the slides in Jorgensen are not in microplate format and not capable of being read by a plate reader.

Accordingly, Applicants argue that each and every feature of base Claims 1 and 5 as arranged in Applicants' Claims 1 and 5 is not taught or disclosed by the cited prior art reference and hence a *prima facie* case of anticipation has not been made. For that reason, Applicants' base Claims 1 and 5 and likewise, dependent Claims 2-3 and 6, respectively are patentably distinct over the

Jorgensen reference under 35 U.S.C. § 102(b). Applicants respectfully request that this rejection be removed.

The Examiner rejected Applicants' Claims 4 and 7 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Jorgensen in view of Burke et al. (US 6,597,500 B1), hereinafter Burke.

Neither Jorgensen nor Burke describe or suggest, whether taken together of separately, ... four slides in combination forms an area equivalent to the footprint of an industry standard microplate ... as recited in Applicants' dependent Claim 4 nor ... a surface property of each substrate ... configured in an 8x12 matrix according to a 96-well footprint... as recited in Applicants' dependent Claim 7.

The Examiner submits that Jorgensen does not disclose that the microscope slides can be configured in a matrix according to a microplate footprint.

Burke discloses an adhesive label for attaching to a microscope slide where the label may have one or more grids or arrays provided on it to help an operator manually spot a microscope slide (Burke, Abstract). The Examiner cites Burke et al. as disclosing a microscope slide comprising a grid for spotting

samples on the microscope slide where the grid corresponds to standard arrangements of wells of a microplate, such as a 8x12 array (see line 60, col. 1).

Though Burke's printed grid may have a one to one correspondence based on a transfer from a microtitre plate, the spacing of Burke's printed grid is much *smaller* than an industry standard footprint of a microplate, this being obvious from the fact that samples from a source microtitre plate are transferred to one target slide (col. 1 lines 60-65). This is further evidenced by the fact that the Burke label may have more than one grids on it (Burke, Abstract) as shown in Burke's Figure 1 which depicts six (6) 8x12 grids all on one slide. Accordingly, though there may be a proportional relationship in the transfer from a plate to the slide, the spacing within the grid is much smaller than the industry standard microplate.

Moreover, Applicants contend that the lack of the proper spacing on Burke's 8x12 grids teaches away from the ability of being analyzed with a microplate reader. Applicants allege that one of skill in the art would know that a microplate format is one that conforms to the industry standard (e.g. SBS standard) footprint and well spacing and as such, a standard microplate reader would require these dimensions to work properly.

Accordingly, Applicants assert that not only is there no description or suggestion in Burke to have four (4) slides in combination to form an area equivalent to the size of an industry standard microplate footprint, but also Burke's smaller spaced grids teach away from providing "an area equivalent to the footprint of an industry standard microplate" as recited in Applicants Claim 4.

Furthermore, Applicants emphasize that it was not motivated or suggested in either reference (Burke or Jorgensen), nor would it have been obvious to one of ordinary skill in the art, to provide Burke's 8x12 grid to Jorgensen's microscope slides so that the microscope slides can be used for spotting samples from a microplate.

Even assuming arguendo that Burke's slides with printed grids were placed in a Jorgensen slide holder, the Jorgensen slide holder, as discussed above in conjunction with Claims 1 and 5, is not in a microplate format and the slides would not be able to be read by a microplate reader.

Accordingly, and along with reasons discussed above regarding Claims 1 and 5 above, dependent Claims 4 and 7 are patentably distinct under 35 U.S.C. § 103(a) over Jorgensen in view of Burke.

The Examiner rejected Applicants' dependent Claims 8 and 9 under 35 U.S.C. § 103(a) as being unpatentable over Jorgensen as applied to claims 1-3, 5 and 6, and further in view of Burke et al. (US 6,597,500 B1) and Wanker et al. (US 6,664,048 B1), hereinafter Wanker.

Neither Jorgensen, Burke, nor Wanker, whether taken together or separately, describe or suggest ... a surface property of each substrate ... configured in a 16 x 24 matrix according to a 384-well foot-print ... as recited in Applicants' dependent Claim 8 nor ... a surface property of each substrate ... configured in a 32 x 48 matrix according to a 1536-well foot-print ... as recited in Applicants' dependent Claim 9.

The Examiner submits that Jorgensen does not disclose that the microscope slides can be configured in a matrix according to a microplate footprint. The Examiner cites Burke as disclosing a microscope slide comprising an 8x12 array and the reference discloses that the grid can comprise other arrangements known in the art (Burke, col. 1, line 10). The Examiner cites Wanker as disclosing a microplate having a 16x24 well arrangement (lines 58-63, col. 29) as well as a 32x48 well arrangement (lines 48-55, col. 30).

Applicants state that it would not have been obvious to one of ordinary skill in the art to provide a 16x24 grid as well as a 32x48 grid to the microscope

slides disclosed by Jorgensen so that the microscope slides can be used for spotting samples from a microplate as there is no motivation in Burke or Wanker to do so, and further Applicants assert there is no description or suggestion in Wanker of placing printed grids, whatever their size, on microscope slides.

Applicants further maintain arguments made *supra*, that, even if, assuming arguendo, Wanker did describe placing printed grids on slides or planar substrates, Burke's or Wanker's printed grids placed in a Jorgensen slide holder does not produce a microplate format since the Jorgensen slide holder, as discussed above in conjunction with Claims 1 and 5, is itself not in a microplate format and the slides would not be able to be read by a microplate reader.

Accordingly, and for reasons discussed above in conjunction with base claims 1 and 5, Applicants' claims 8 and 9, which both depend from claim 5, are patentably distinct over the cited references under U.S.C. § 103(a).

Applicants have added new dependent claims 25 and 26 reciting "a spring ... for tightening a planar substrate at its location" (claim 25) and "a slot for loading and removing said planar substrates" (claim 26) with support in Applicants' specification at paragraph [0037]. Applicants contend their new dependent claims are also patentably distinct over the cited prior art references.

CONCLUSION

Based upon the above amendments, remarks, and papers of records, Applicants believe the pending claims of the above-captioned patent application are in allowable form and patentable over the prior art of record. Applicants respectfully request that a timely Notice of Allowance be issued in this case.

Applicants believe that **no** extension of time is necessary to make this Reply timely. Should Applicants be in error, Applicants respectfully request that the Office grant such time extension pursuant to 37 C.F.R. § 1.136(a) as necessary to make this Reply timely, and hereby authorize the Office to charge any necessary fee or surcharge with respect to said time extension to the deposit account of the undersigned firm of Attorneys, Deposit Account 03-3325.

Please direct any questions or comments to Joanne N. Pappas at 978-635-2289.

Respectfully submitted,



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